



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,191	02/17/2004	Hiroyuki Yamagishi	7217/71726	9923
530	7590	08/22/2006	EXAMINER	
LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK 600 SOUTH AVENUE WEST WESTFIELD, NJ 07090			BAKER, STEPHEN M	
			ART UNIT	PAPER NUMBER
			2133	

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/780,191

Applicant(s)

YAMAGISHI, HIROYUKI

Examiner

Stephen M. Baker

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Specification***

1. The abstract of the disclosure is objected to because "Parallel Response" apparently should be "Partial Response." Correction is required. See MPEP § 608.01(b).
2. The disclosure is objected to because of the following informalities: in paragraph 0005, "Parallel Response" apparently should be "Partial Response."  
  
Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1: "acquiring encoded data in a method described by a first finite state transition diagram" is incorrect and apparently should be "acquiring data encoded in a method described by a first finite state transition diagram" or the like.

***Claim Rejections - 35 USC § 101***

5. Claim 10 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claimed program lacks a storage medium.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1 and 3-11 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,996,764 to Yamada (hereafter "Yamada").

Yamada discloses arrangements for reproducing data that has been encoded by a turbo code encoder followed by an RLL code encoder and then carried by a PR channel. Yamada's PR-Channel APP decoder is based on a combined RLL/PR code trellis, where the RLL code is a (1, 7) RLL code. Yamada shows an "acquiring means" in the form of a Reproduction Circuit 41, and the PR-Channel APP decoder 43 serves as a "means for decoding the acquired encoded data by using a trellis corresponding to a second finite state transition diagram that is a combination of the first finite state transition diagram and intersymbol interference," where the "first finite state transition diagram" corresponds to the RLL code trellis, and the "intersymbol interference" corresponds to the trellis of the PR channel.

8. Claims 1, 4 and 6-11 are rejected under 35 U.S.C. 102(b) as being anticipated by the published article "Performance Comparison of Selected DC-Free Codes for PR1-Equalized Magnetic Recording Channels" written by Zafer (hereafter "Zafer").

Zafer discloses arrangements for reproducing data that has been encoded by a turbo code encoder followed by an RLL (DC-Free) code encoder and carried by a PR1 channel. Zafer's data reproduction requires a PR-equalizer that provides an "acquiring means." Zafer's Viterbi decoder serves as a "means for decoding the acquired encoded data by using a trellis corresponding to a second finite state transition diagram that is a combination of the first finite state transition diagram and intersymbol interference," where the "first finite state transition diagram" corresponds to the RLL (DC-Free) code trellis, and the "intersymbol interference" corresponds to the trellis of the PR1 channel.

***Claim Rejections - 35 USC § 103***

9. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada.

Yamada does not mention using a (2,7) RLL code in place of the (1, 7) RLL code. Official Notice is taken that a (2,7) RLL code is a well-known standard type of RLL code. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to substitute a (2,7) RLL code in place of Yamada's (1, 7) RLL code. Such a substitution would have been obvious because that a (2,7) RLL code is a well-known standard type of RLL code.

10. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zafer.

Art Unit: 2133

Zafer does not mention using a (1, 7) or (2,7) RLL code in place of the DC-Free modulation code. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to substitute a (1, 7) or (2,7) RLL code in place of Fang's (1, 7) DC-Free modulation code. Such a substitution would have been obvious because (1, 7) and (2,7) RLL codes are well-known standard types of modulation code.

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. Baker whose telephone number is (571) 272-3814. The examiner can normally be reached on Monday-Friday (11:00 AM - 7:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2133

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Stephen M. Baker  
Primary Examiner  
Art Unit 2133

smb